Introduction: sport and economics

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Research into the application of economic concepts to sporting activities has mushroomed in recent decades: whether it be the contribution of sporting activities to economic growth, competition for media rights, labour markets for sports stars or the economic incentives embedded in the structure of league rules. The intent of the present book is to present an overview of research in sports economics at an introductory level – suitable for use, for example, by students on undergraduate courses or researching some background for an essay. It embraces the diversity of modern amateur and professional, individualistic and team sports, American, European and Australian rules and organisation, and macro- and microeconomic dimensions of sports. Its coverage spreads from technical topics (such as sports accounting) to more analytical issues, which have emerged in the economic literature. While research on the economics of sports spans barely more than half a century, there are now a number of major research areas. These encompass the economic significance and impact of sport, demand for sport, costs and benefits of sporting activities and events, the governance model of sport and the role of the state, the economic theory of tournaments and its application to individualistic and team sports, competitive balance and the theory of sports leagues and teams, the labour market implications of professional sports, and some problems raised by 'drifting off' sports (those sports that go drifting off from their ethics, due to doping, match fixing, corruption and so on), some crucial determinants of which are economic.

A Brief Historiography of the Economics of Sports

The emergence of the economics of sports is usually traced back to 1956 in the United States. The founding father is Simon Rottenberg, from the University of Chicago, with a seminal article devoted to the baseball players' labour market (Rottenberg, 1956). From the very beginning, sports economics had a tight link with labour economics. However, Rottenberg also attempted to define the nature of the product of a sports league, and stressed the importance of uncertainty of outcome and the limitation of arrangements that would concentrate player talent in a single profit-maximising team. Therefrom, he expressed what remains famous as the Rottenberg invariance principle about talent distribution across teams in a league, somewhat anticipating the Coase theorem (Coase, 1960). So, from its inception, sports economics in North America was concerned with economic organisation, the microeconomic theory of the firm and market competition.

To be fair, we should mention two other American frontrunners. Jay Topkis (1949) had already tackled the issue of monopoly in professional sports even though the article was published in a law journal and, in the same year as Rottenberg's article, Paul Gregory (1956) also published a study for the government on the baseball players' labour market. The next step is a paper by Walter Neale (1964) which is the starting point of the theory of professional sports leagues, since it differentiates sporting competition (and the so-called 'competitive balance') and market competition (and economic equilibrium). He

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argued that, while teams compete on the field, one team could not dominate its competition if the league is to be successful in terms of sales and profit. Unlike in most industries, the firms (clubs) in a sports league must collude to balance the competition. The microeconomic theory was presented more rigorously by El-Hodiri and Quirk (1971), which presents one of the first formal economic models of a sports league.

Sports economics in the United States has focused primarily on professional sports. Not surprisingly, the first article published by a Canadian economic journal in the field (Jones, 1969) analysed the economics of professional hockey. In the first twenty-five years research progressed quite slowly. For example, one of the first American books devoted to the economics of professional team sports (Demmert, 1973) contains no more than eight references to publications in sports economics, the rest referring to the microeconomics of imperfect competition, American capitalism and qualitative economics. Perhaps the most influential publication of the period was *Government and the Sports Business*, edited by Roger Noll (1974), a book resulting from a conference of experts on the economics of sports held at the Brookings Institution in December 1971. Its bibliography contains about 25 publications in sports economics, although nearly half of them were published in law journals, mainly on antitrust analysis.

Noll's book seems to have acted as a springboard for the development of the American literature in the economics of sports. It opened the door to studies of demand for sport (attendance, price setting), sports broadcasting and sponsorship, and subsidies of stadiums and sports arenas. In addition to these areas, racial (and later gender) discrimination in the labour markets for players became a major topic (and issue) in North American economics of sports. This topic developed largely out of the innovation of Gerald Scully (1974) who showed how the marginal revenue product of a player could be estimated by a two-stage process (estimating first the contribution of player performance statistics to wins, then the contribution of wins to generating revenues). It was quickly recognised that this would also provide an explicit test of racial discrimination if members of a minority were paid less for a given contribution to wins.

Perhaps the main reason why sports economics developed in the United States was the growth of demand for antitrust analysis based around the reserve clause and related issues. Moreover, the clubs and leagues themselves supported these developments by hiring economists to present their arguments and engaging in the public policy debate with Congress. In Europe those who controlled sporting organisations tended to adopt a more secretive approach. Litigation was limited and, even where it arose, economic analysis was not widely used. Public policy debates on sport were almost unheard of.

None the less, the American research agenda started to be noticed in the UK at the end of the 1960s. Peter Sloane, a labour economist, was inspired by Rottenberg's work to apply economic analysis to the labour market for English football players in his first sports publication in 1969. This came six years after the 'retain and transfer' system, English soccer's version of the reserve clause, had been successfully challenged in court and nine years after the maximum wage had been abolished. A further article in 1971 established a view that has been widely held ever since – that European clubs are not so much interested in profits (as is typically assumed in the United States), but rather behave like utility or win maximisers. In the 1970s and 1980s, a small group of researchers developed the analysis of sport based on UK data (typically either English or Scottish football), dealing primarily with issues relating to demand and competitive balance, for example, Hart et al.

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(1975), Bird (1982) and Jennett (1984). Many of these authors later left the economics profession and the economics analysis of sport in the UK only started to move forward again with the emergence of a new generation of researchers in the 1990s.

Developments in the UK and America tended to follow what might be thought of as the Anglo-Saxon approach to economic analysis. In Europe outside the UK, sociological currents were much more in evidence. The seminal work is Volpicelli (1966) who examined the economic relationships between modern sports and the manufacturing industry. He argues that modern sport has fed off advances in technology associated with modern industrial capitalism, leading to the 'commodification' of sport. Volpicelli's book influenced the emergence of a French 'school' of sports economics along with the writings of some sociologists. Following Pierre Bourdieu's theses (1979) on social differentiation, the French sociologist Christian Pociello (1981) differentiated sports according to a number of social and economic factors. In the French context, these factors include the distribution of the state budget across sports, the role of technology and the influence of industrial patrons which determine the different rates of growth rates of different sports practices (Andreff, 1981).

Volpicelli contended that sports competition, with its rituals, its rules, its training techniques and its shows, duplicates industrial organisation and the division of labour in factories. This analysis was taken up by the Marxian sociologist, Jean-Marie Brohm (1976), who argued that since modern sport is embedded in capitalist economic development, it evolves according to the same driving forces, namely competition and the need to obtain an economic return. The production of sporting performance (value) is ranked alongside the production of market commodities. The creation of sporting value, like economic value, requires the input of working time under an increasing returns technology, so that the stadium becomes a sort of industrial manufacture equipped with running machines, jumping machines, football-playing machines. Thus the early French economics of sports contained a provocative mixture of sociology and economics.

After 1977 the field developed rapidly in France through a series of dissertations: a Master's dissertation at the University Paris 1 investigated the economics of professional cycling (Reydet, 1977); a PhD dissertation which launched the creation of a nationwide sport accounting system was published (Malenfant-Dauriac, 1977); another by Gerbier and Di Ruzza (1977) developed an economic analysis of the ski industry (which was both French and globalised); and the same year, a working group started its meetings at Grenoble University, developing a similar approach to other sports. This generated another PhD dissertation analysing the convergence and conflict of interests in the cycling business, and the peculiar role of the Tour de France (Calvet, 1981). In 1978, a PhD dissertation applied Gary Becker's notion of human capital to a demand and supply analysis on the sports labour markets (Fouques, 1978). Yet another dissertation was submitted on the determinants of the demand for sporting goods (Sobry, 1982). Last but not least, a research centre on the law and economics of sports was created at Limoges University, where the first course in the economics of sports was started.

After planting such seeds, a big crop was harvested. Although published later (1983), Jean-François Nys's PhD dissertation (1979) provided an economic analysis and modelling of public subsidies to French amateur and professional football clubs that took into account socioeconomic explaining factors. The Master's dissertation by Jean-François Bourg (1981, published in 1983) was coming closer to the American literature on the

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football (soccer) players' labour market but with a specific French flavour, since it focused on the socioeconomic differentiation among players and the financial segmentation among clubs, in line with Doeringer and Piore (1971).

Several French contributors to this volume were trained in Limoges, which soon started providing economic analysis for government and sporting bodies. This included a study for the French Olympic committee and sports federations on management training and accounting systems for non-profit-making sports associations (Andreff, 1980), and the role of voluntary work in sport (Andreff and Nys, 1984). Andreff (1985) analysed the impact of industrial firms on sport. In a paper on the state of art in the French economics of sports, nearly 100 articles, books and PhD dissertations were listed 10 years ago (Andreff, 1995). The major areas covered were industrial economics, public policy, labour markets, sport facilities and regional economic development, and sports consumption linked to practice. In other words, the French approach to the economics of sports was less focused on professional sports than the North American one, simply due to their lower relative importance in French sport and economy until the early 1990s. Research in other European countries tended to follow this French model.

The German approach requires a special mention. Two approaches have been adopted. One is similar to the Anglo-American analysis (Melzer and Stäglin, 1965), following up on the discussion launched by Rottenberg (1956) and Neale (1964) but within the context of the football Bundesliga. However, just like in France, some roots of sports economics are embedded in socioeconomics, with the first works written and gathered by a sociologist, Klaus Heinemann (1984). He was one of the pioneers in the field. Gärtner and Pommerehne (1978) asked the epistemological question 'is the football spectator an *homo oeconomicus*?' (see also Rittner, 1988). Egon Franck (1995) theorised about management strategies in the team sport industry using the theory of property rights, the principal–agent model, transaction costs and institutional economics. However, the real rocket pad for sports economics was a study led by Wolfgang Weber (Weber et al., 1995) on the economic significance of sport in a reunified Germany, which must be regarded as the first step towards the current macroeconometric modelling of the sports economy and the impact of major sporting events such as the football 2006 World Cup hosted in Germany. Since then, the German literature in the economics of sports has grown very fast and is represented by several authors in this volume.

Finally, in the brief introduction to the roots of sports economics writing it is important to mention Australia. Australian writers were from the beginning familiar with developments in North America and the UK, and brought the early insights of this literature to bear on the unique Australian sports landscape. Dabscheck (1975a and b) was one of the first Australian writers and focused on the economic analysis of the wage determination on the labour market for sportspeople. The early work of Borland focused on the demand for sport applied to Australian rules football (Borland, 1987). Another important Australian study which has had a wider impact was that of Burns et al. (1986) on the Adelaide Grand Prix.

The Recent Scientific and Institutional Recognition of Sports Economics

Since the mid-1990s there has been an explosion of publishing in the sports economics field. Several hundred articles have been published and at least a dozen major books. Over one hundred economists are involved in these publications and their number is growing

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every year; 65 of them are contributors to this volume. In recent years the economics of sports has started a process of 'institutionalisation' reflecting its increasing scientific recognition:

- There is now an International Association of Sport Economists, launched in 1999, which holds an annual conference.
- There is a field journal, the *Journal of Sports Economics*, started in 2000.
- There is an increasing number of papers on sports economics that are published in generalist economic journals including the *American Economic Review*, the *Journal of Political Economy*, the *Journal of Economic Perspectives*, the *Review of Economics and Statistics*, the *European Economic Review*, *Applied Economics*, the *Economic Journal*, *Economic Policy*, *Economic Inquiry*, and *Contemporary Economic Policy* (see Zimbalist, 2001 for a useful collection).
- There have now been two survey articles published in the *Journal of Economic Literature* (Fort and Quirk, 1995 and Szymanski, 2003).
- Since 2000 a number of textbooks have been published.

In Europe there has been increasing public sector support for research on sporting issues. Since the 1980s there have been studies sponsored by the Council of Europe, the British Sport Council (now Sport England), the Bundesinstitut für Sportwissenchaften (the central state institute for sports sciences) in Germany, the French Ministry for Sports and the French Olympic committee, its Italian counterpart (CONI), the Idreatforsk in Denmark and so on and so forth.

Sports economics may now be considered a discipline in its own right, rather than merely an adjunct of law (as in the early US literature) or sociology (as in France). Although a number of articles in sports economics are still published in journals such as *European Sport Management Quarterly*, the French *Revue Juridique et Économique du Sport* or journals covering other social sciences applied to sport, the very fact that articles on sports are widely admitted in mainstream economic journals demonstrates its growing recognition as a specialised discipline of economics.

Economic Significance and Demand for Sport

The principal driving force behind the expansion of sports economics has been the rapid growth in the economic significance of sport during the past three decades. Demand for participation in sport, demand for sporting goods, demand for live sports events, and demand for sports broadcast have all skyrocketed since the 1970s in North America, the 1980s in Western Europe and in much of the rest of the world in the 1990s. We can provide some current indicators of the magnitudes of this demand.

Looking first at sporting goods, today, the global market for winter sport goods is over €1.6 billion and the global market for sport footwear is over €20 billion while the global market for all sporting goods is in the range of €150 billion. As far as the service sector is concerned, global spending on sport sponsorship reached almost US$18 billion in 2003. The global market for TV rights is estimated at over €50 billion per year. The value of worldwide sports TV rights increased by 993 per cent between 1991 and 2001. European sports TV rights sold for about €20 billion in 2002. In 2001, 106 million European households were connected in one form or another to subscription TV (terrestrial, cable or

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satellite). In other words, the sports economy takes its share in the contemporary economic globalisation.

The pace of growth is illustrated by the value of Olympic broadcast rights. The summer Olympics in Rome 1960 attracted $1.2 million TV rights; 40 years later in Sydney, the broadcasting rights sold for $1332 million (this is equivalent to an annualised growth rate of 19 per cent). CBS had paid $0.5 million to obtain the exclusive rights to the Rome Olympics for the American market, while NBC bought for $2392 million the package of the 2000–08 Summer Olympics. The cumulative TV viewing time for the Athens Olympics was estimated at 39 billion hours. Overall revenues of the International Olympic Committee increased from $14 million in 1973–76 to $346 million in 1997–2000. The turnover of the football World Cup is $4 billion. This last event produced a TV rights inflow of €15 million in 1978, and €991 million in 2006. The world audience of the football 1998 World Cup was 50 billion viewers, and 41 billion in 2002. The 2004 National Football League Superbowl was broadcast in 21 languages to 229 countries. The annual share of TV receipts distributed to every American football club has risen from $45 000 in 1960 to $73 million in 2004. The overall amount of fees received by the National Basketball Association increased from $188 million in 1990 to $660 million in 2002. Broadcasting rights for the Roland Garros tennis tournament cost €39 million and 3 billion viewers watch it in 170 countries. A free event such as the Tour de France draws 12 to 15 million spectators on to the roads every year, and is broadcast by 75 channels in over 170 countries.

At the level of each domestic economy, the sports industry is increasingly important. In Europe, in the early 1970s, the ratio of overall sport expenditures (for goods and services) to GDP was around 0.5 per cent. In 1990, the ratio ranged between 1 and 1.5 per cent of GDP in most European countries. Today it is closer to 2 per cent, on average. In 1997, spectator sports alone contributed $14 billion to the US economy (0.14 per cent of GDP) and total attendance at sports events represented 41 per cent of the US adult population. The total bill for 29 professional sport facilities that opened in the United States over the 1999–2003 period is close to $9 billion. The top 20 advertising companies involved in sport have provided about $2 billion to American sports in 2000. Overall, sport-related expenditures raised over £29 billion in 2000 in England and over €25 billion in France (1.7 per cent of GDP). About 2 million people are employed in the sports economy in the 15 member countries of the European Union – that is, 1.3 per cent of overall EU employment. About 222 000 employees were working in sport in the UK and 95 000 in France in 1998. The broadcasting rights fees accruing to all sports, in 1998, reached $451 million in France, $841 million in Germany, $500 million in Italy, $261 million in Spain and $791 million in the UK.

An Overview of the Book

This book is the result of an enterprise initiated by the first editor in the summer of 2002. From the beginning the idea was to put together a collection of monographs on different aspects of sports economics in order to provide the general reader with an introduction and a reference point for the most important aspects of the field. We felt it important to capture the diversity of views present in the literature and to avoid imposing a harsh editorial line. What you will find in this book is not merely the erudition, but also many of the opinions and controversies, of the leading practitioners in the field. The 65 authors

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represented in this book can truly claim to represent the field almost in its entirety.[2] In order to organise the contributions the editors drew up their own categories at the beginning of the project, and these have largely been retained in the final version. The book is divided into seven main parts. Part I deals with sport and the macro economy, Part II with demand for sport in general. Part III looks at issues surrounding cost–benefit analysis of sporting activities and events and Part IV looks at the role of sporting governance and the state. Part V examines individualistic sports, while Part VI looks at team sports. This is by far the largest section of the book, reflecting the preoccupations of the field. We have divided it into two sections, the first of which deals with individual sports and leagues, and the second with the principal economic issues. Finally, Part VII looks at dysfunctions in sports, such as discrimination, doping and corruption.

We cannot claim that there are no gaps in this work, but we believe that a general reader will be able to find a starting point in the book for almost any topic in sport. We do not claim that there is no repetition, but in each case the author has given his or her own distinctive views. In short, we believe that this book is an ideal introduction to an important and growing field. Bon appetit.

Notes

1. Jeff Borland helped both editors in collecting papers by Australian sports economists.
2. Almost no one whom we approached refused to participate in this project. We should, however, apologise to the small number of active sports economists who were not invited to contribute – no slur is intended.

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